



Volunteer Lake Assessment Program Individual Lake Reports

HALFMOON POND, WASHINGTON, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	4,947	Max. Depth (m):	5.8	Flushing Rate (yr ⁻¹)	16.6	Year	Trophic class	KNOWN EXOTIC SPECIES
Surface Area (Ac.):	83	Mean Depth (m):	2.6	P Retention Coef:	0.38	1981	MESOTROPHIC	
Shore Length (m):	3,200	Volume (m ³):	856,000	Elevation (ft):	1432	2001	MESOTROPHIC	

TROPHIC CLASSIFICATION

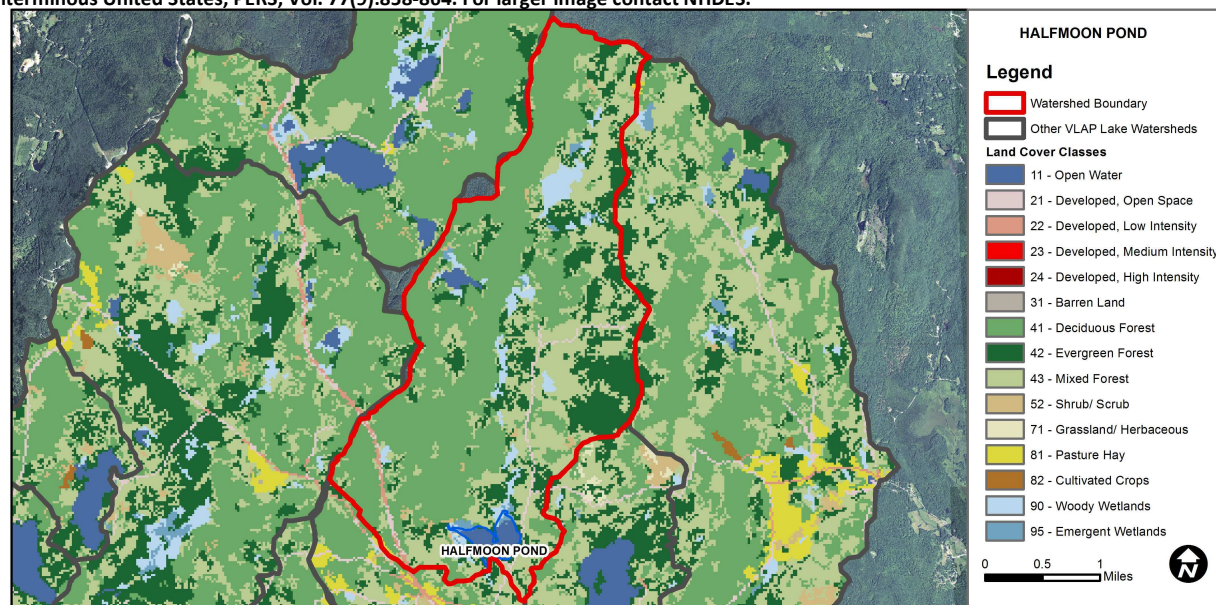
KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	>=5 samples and median is < threshold but > 1/2 threshold value.
	pH	Bad	>10%, with a minimum of 2, samples exceed criteria, with 1 or more by a large margin.
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	Chlorophyll-a	Good	>=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	Good	Geometric means < criteria; however at least 1 exceedance of the single sample criteria occurred.
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of criteria.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	1.87	Barren Land	0	Grassland/Herbaceous	0.04
Developed-Open Space	1.21	Deciduous Forest	44.45	Pasture Hay	0.16
Developed-Low Intensity	0.4	Evergreen Forest	19.38	Cultivated Crops	0
Developed-Medium Intensity	0	Mixed Forest	26.91	Woody Wetlands	4.1
Developed-High Intensity	0	Shrub-Scrub	0.73	Emergent Wetlands	0.76



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2013 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphics)

- CHLOROPHYLL-A:** Chlorophyll levels in June were above average and greater than the state median. Historical trend analysis indicates stable chlorophyll levels with low variability between years since monitoring began.
- CONDUCTIVITY/CHLORIDE:** Boat launch conductivity was elevated in June following a significant storm event. Deep spot conductivity was low and historical trend analysis indicates significantly decreasing (improving) epilimnetic conductivity since monitoring began.
- TOTAL PHOSPHORUS:** Boat launch phosphorus levels were elevated in June following a significant storm event. Deep spot phosphorus levels were relatively low and historical trend analysis indicates relatively stable epilimnetic phosphorus levels with moderate variable between years since monitoring began.
- TRANSPARENCY:** Transparency was slightly lower likely due to the increased algal growth. Historical trend analysis indicates relatively stable transparency with moderate variability between years.
- TURBIDITY:** Hypolimnetic turbidity was slightly elevated in June, potentially due to bottom sediment contamination.
- pH:** Deep spot and tributary pH levels were lower than desirable. Historical trend analysis indicates a relatively stable epilimnetic pH with high variability between years since monitoring began.
- RECOMMENDED ACTIONS:** Water quality at the boat launch is much worse than the deep spot and tributary stations, as measured in 2013 and previous years. Further investigation to identify any point or non-point sources of pollution at the Boat Launch is recommended. For assistance, please contact the VLAP Coordinator. The decreasing conductivity levels are a positive sign; keep up the great work!

Station Name	Table 1. 2013 Average Water Quality Data for HALFMOON POND						
	Alk.	Chlor-a	Cond.	Total P	Trans.		pH
	mg/l	ug/l	uS/cm	ug/l	NVS	VS	
Boat Launch			69.4	17			0.92
Dam Outlet			21.2	9			0.50
Epilimnion	1.90	6.27	21.2	9	2.50	2.75	0.79
Hypolimnion			21.6	11			2.23
North Inlet			20.2	12			1.13

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.

Alkalinity: 4.9 mg/L

Chlorophyll-a: 4.58 mg/m³

Conductivity: 40.0 uS/cm

Chloride: 4 mg/L

Total Phosphorus: 12 ug/L

Transparency: 3.2 m

pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

Chloride: < 230 mg/L (chronic)

E. coli: > 88 cts/100 mL – public beach

E. coli: > 406 cts/100 mL – surface waters

Turbidity: > 10 NTU above natural level

pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation	Parameter	Trend	Explanation
pH	Stable	Trend not significant; data highly variable.	Chlorophyll-a	Stable	Trend not significant; data show low variability.
Conductivity	Improving	Data significantly decreasing.	Transparency	Stable	Trend not significant; data moderately variable.
			Phosphorus (epilimnion)	Stable	Trend not significant; data moderately variable.

